

same work he is of opinion that there are two adult plumages, one white (= *S. s. sula*) and one brown (= *S. nicolli*).

M. J. Nicoll, *Ibis*, 1904, p. 588, discusses the two plumages, and in the same journal (1906, p. 690) he states that nearly the whole of the Gannets on Glorioso I. were in brown plumage, with white tails, vents, etc., and that, to the best of his belief, he did not see a single speckled Gannet (=immature of *S. s. sula*) on this island, but saw the speckled birds on Assumption and Aldabra.

Alexander, in 'Birds of the Ocean,' 1928, p. 284, mentions this bird as an intermediate stage, and that it breeds in this plumage.

There is no doubt that this bird is not an immature or intermediate plumage of the Red-footed Booby (*S. s. sula*), as the majority of the twenty specimens examined are fully adult, and six are marked by Nicoll as breeding, as is also an adult male from Aliepata, Western Samoa, collected by J. S. Armstrong on April 4, 1923 (Brit. Mus. Reg. no. 1926.12.20.21).

Moreover, all the immature specimens examined of *S. s. sula* which are assuming the adult white plumage are all showing white feathers on the whole of the body, neck, and head. This bird cannot be a colour-phase, as in all such cases the coloration is evenly distributed, and, therefore, in this Booby the rump, tail, and vent would also be ash-brown.

A male collected by J. MacGillivray on Raine's Island on May 29, 1844 (Brit. Mus. Reg. no. 1845.7.14.2) is this new Booby, but has the under-parts rather paler, more pure ash-colour, and specimens from Navigator I. (Brit. Mus. Reg. no. 1847.8.20.12) and Henderson I. (Brit. Mus. Reg. no. 1913.3.4.14) also belong to this species, but the breast and abdomen are almost as white as the vent; the back and wings are ash-brown. No doubt further material will show that these are subspecies of *Sula nicolli*.

Dr. FINN SALOMONSEN forwarded the following remarks upon the Madagascar Paradise Flycatchers:—

On examining the huge series of the Madagascar Paradise

Flycatcher (*Tchitrea mutata* (Linnæus)) in the Collection of the recent Franco-Anglo-American Expedition to Madagascar, some interesting facts were discovered. The individual variation of this bird is very great, and it is not only dimorphic, as are many other birds, but the males are tetramorphic, *i. e.*, divided into four distinct phases, as first set out by Stresemann (J. f. Ornith. 1924, p. 93). There exist the following phases or mutants:—*a*, maroon; *b*, maroon with white streamers; *c*, white-backed; *d*, black-backed. It is noticeable, however, that all four forms do not occur in the whole island, *a*, *b*, and *d* being confined to the eastern parts of the country, to the wood-land and the eastern slopes of the central high plateau. In the dry western regions only the phase *c* occurs, together with some few individuals of *b* (only two of 23 *b*'s were western), but *a* and *d* are quite absent. In northernmost Madagascar, north of a line Andapa–Maromandia–Nossi-bé, *c* and *d* meet and hybrids (*c*≥*d*) are often collected. Also *b* is met with here, but *a* is restricted to the more southern parts of the east coast south of Maroantsetra. I may add that the white-backed *c* is also to be found on Mayotte, together with another phase resembling *a*, but with more white on the wing. We, therefore, have to divide the Madagascar Paradise Flycatchers into three subspecies, one form inhabiting Mayotte Island, and hitherto considered to be identical with the mainland form, another form inhabiting eastern Madagascar, and containing the male types *a*, *b*, and *d*, and a third western form with only *c* and a few *b*. The question now is what to call the three subspecies and the four mutants *a*–*d*. This matter is extremely difficult, as the nomenclature is most confusing.

Linnæus gave (Syst. Nat. ed. xii. i. p. 325–1766) Madagascar as the habitat for his *Muscicapa mutata*, referring only to Brisson, Ornith. ii. 1760, p. 424, t. 40, figs. 1, 2, 3. Brisson on this plate figured three species of birds, which he calls *Muscicapa madagascariensis longicauda* (descr. p. 424), *Muscicapa madagascariensis albicilla longicauda* (descr. p. 427), and *Muscicapa madagascariensis varia longicauda* (descr. p. 430), collected by Poivre and kept in the Reaumur Museum. From

the descriptions and the figures it is evident that these three birds are nothing but the males *a*, *b*, and *d*, thus showing the composition of the population in the east, where Poivre certainly must have collected his specimens. Besides quoting Brisson, Linnæus described *Muscicapa mutata* as having "Corpus supra nigro-virescens," &c., his name thus given to the form *d*. The designation *M. mutata* must of course stand for the eastern form. The first name of the phase *a* is given by P. L. S. Müller (Vollst. Natursyst., Suppl. u. Reg.-Band, 1776, p. 168), who calls it *Muscicapa caudata*. Cassin (Proc. Acad. Nat. Sci. Philad. 1864, p. 255) also refers it to *mutata*. Already in 1783 the same bird was again described by Boddaert (Table Planch. enlum., p. 15) under the name *Muscicapa virescens*, referring to Brisson, Ornith. ii. 1760, p. 420 (rect. 424), and pictured in d'Aubenton, Hist. Nat. Ois. 1778, pl. 248, fig. 1, both showing the phase *a*, and the name thus becomes a synonym of *caudata* Müller. Swainson (Nat. Hist. Birds West Africa, 1837, ii. p. 60) described *Muscipeta rufa* (without type-locality), but from his excellent description it evidently appears that it is given to the form *a*, and the same can be said of the *Muscipeta holosericea*, the "Moucherolle chet-roux," given the following year (1838) by Temminck (Tabl. méthod. p. 23) to "Le Schet roux" of Le Vaillant (Ois. Afr. 1799, pl. 147), which again is our bird *a*. There can be no doubt that the bird described by Hartlaub as *Tchitrea spekei* (P. Z. S. 1865, p. 428) must be the phase *a*, although he states that it comes from "Afr. orient. interiore." As Sharpe declares that the type came from Madagascar (*cf.* Milne-Edwards and A. Grandidier, Hist. Phys. &c. de Madagascar, xii. 1879, p. 389), and as Hartlaub's description is very clear, I do not hesitate to call it a synonym of *caudata* Müller.

For the mutant *b* only one description exists, and we must for this bird adopt the name *Muscicapa gaimardi* of Lesson (Traité d'Ornith. 1831, p. 386); but, unfortunately, he states that it comes from New Guinea, where no *Tchitrea* are found at all. However, I am sure it is an error, as the very detailed description evidently applies to this Madagascar Flycatcher.

Milne-Edwards and A. Grandidier (*loc. cit.* p. 388) are of the same opinion. As before mentioned, the Linnæan name *Muscicapa mutata* has to be the designation of the mutant *d*, and Swainson's name *Muscipeta bicolor* (*loc. cit.* p. 60) is clearly a synonym of this. Regarding the fourth form, the white-backed mutant *c*, it was described by Lesson in 1847 (*Descr. Mamm. et Ois. récemm. découv.* p. 324) as *Tchitreia pretiosa*. As he says that "cet oiseau habite l'île de Mayotte et se trouve à Nossi-bé," it becomes the name of the Mayotte subspecies. Also E. Newton (*P. Z. S.* 1877, p. 298) speaks about "*Tchitreia mutata* of Madagascar and *T. pretiosa* of Mayotte," and Stresemann (*loc. cit.*) calls the white-backed bird on Mayotte *pretiosa*. In 1906 the Mayotte subspecies was described by Nicoll (*Bull. B. O. C.* xvi. 1906, p. 104) as *Terpsiphone lindsayi*, but without mentioning the differences from *Tchitreia mutata*, only comparing his type with the *Tchitreia comorensis* and *Tchitreia vulpina*, and, therefore, Selater (*Syst. Av. Æthiop.* 1930, p. 436) and others regarded it as identical with *mutata*. The western form, of Madagascar, I propose to call *Tchitreia m. singetra*, after the native name of this bird. From the mainland forms the Mayotte subspecies can be distinguished by the greater amount of white on the wing, noticeable in both adult and juvenile plumages.

Owing to the great individual and geographical variation of the Madagascar Flycatchers, there has always been great confusion, and no author (except Stresemann) has mentioned all the four existing forms. In 1860 Hartlaub (*J. f. Ornith.* 1860, p. 99) separated *holosericea* (*a*), *mutata* (*d*), and *pretiosa* (*c*) as distinct species, but in 1865 (*P. Z. S.* p. 835) Newton supposed that they belonged to the same species, as also did Schlegel (*Nederl. Tid. Dierk.* 1865, p. 84). However, Stresemann first (*loc. cit.* 1924) separated the four forms and explained the differences between them in the right way as inheritable mutants.

We can now divide the Madagascar Flycatchers as follows :—

1. TCHITREA MUTATA MUTATA (Linnæus).

Muscicapa mutata Linnæus, *Syst. Nat.* ed. xii. i. p. 325.
(1766—Madagascar.)

a. CAUDATA (Müller).

Muscicapa caudata P. L. S. Müller, Vollst. Natursyst. Suppl. u. Reg.-Band, p. 168. (1776—Madagascar.)

Muscicapa virescens Boddaert, Table Planch. enlum., p. 15. (1783—Madagascar, ex Brisson.)

Muscipeta rufa Swainson, Nat. Hist. Birds West. Africa, ii. p. 60. (1837—Africa.)

Muscipeta holosericea Temminck, Tabl. méthod., p. 23. (1838—ex Levaillant.)

Tchitrea spekei Hartlaub, Proc. Zool. Soc. London, p. 428. (1865—East Africa, *errore.*)

spekei-type, Stresemann, J. f. Ornith. 1924, p. 93.

b. GAIMARDI (Lesson).

Muscicapa gaimardi Lesson, Traité d'Ornith., p. 386. (1831—New Guinea, *errore.*)

mutata-type, Stresemann, *loc. cit.*

d. MUTATA (Linnæus).

Muscicapa mutata Linnæus, *loc. cit.*

Muscipeta bicolor Swainson, Nat. Hist. Birds West. Africa, ii. p. 60. (1837—Africa.)

bicolor-type, Stresemann, *loc. cit.*

Hab. Eastern Madagascar.

2. TCHITREA MUTATA PRETIOSA Lesson.

Tchitrea pretiosa Lesson, Descr. Mamm. et Ois. récemm. découv., p. 324. (1847—Mayotte.)

Terpsiphone lindsayi Nicoll, Bull. Brit. Orn. Club, xvi. p. 104. (1906—Mayotte.)

a. CAUDATA (Müller) (modified).

c. PRETIOSA Lesson.

Tchitrea pretiosa Lesson, *loc. cit.*

pretiosa-type, Stresemann, *loc. cit.* (Mayotte.)

Hab. Mayotte Is., Comores. On the other islands very different subspecies.

3. *Tchitrea mutata singetra*, subsp. nov.

Type in British Museum ; Soalala ; ♂ ad., May 31, 1929.

b. GAIMARDI (Lesson).

c. PRETIOSA Lesson.

Hab. Western Madagascar.

Mr. D. A. BANNERMAN sent the description of a new race of the Double-toothed Barbet, which he proposed to name :—

Pogonornis* * *bidentatus friedmanni, subsp. nov.

Description.—Differs from *Pogonornis bidentatus* (the race which extends from Sierra Leone to Nigeria) in its larger size and in having a greater amount of crimson on the crown. From *P. b. æquatorialis* it may be distinguished by the wing-bar being entirely deep scarlet, whereas in *æquatorialis* it is more rose-colour, the fringes being paler.

Measurements.—Bill, ♂ 31–33, ♀ 28–31 ; wing, ♂ 104–109, ♀ 102–108 ; tail, ♂ 75–82, ♀ 77–82 ; tarsus, ♂ 29, ♀ 26–28 mm. Three males, six females, measured from Cameroon and Angola.

Distribution.—Southern Cameroon and N. Angola.

Type.—♂ adult, Ndala Tando, North Angola ; Dr. W. J. Ansorge coll. Brit. Mus. Reg. no. 1910.5.6.371.

Remarks.—I have great pleasure in naming this Barbet in honour of Dr. Herbert Friedmann, of the United States National Museum, in recognition of his valuable work on African birds.

Dr. JAMES M. HARRISON writes :—

I shall be glad if you will make a small correction in the next 'Bulletin.' In the President's Address (Bull. B. O. C. liii. 1932, p. 53) it is stated that my paper on the Bulgarian trip has already been given in 'The Ibis.' As a matter of fact the typescript has been in the hands of the Editor of that journal since the middle of last December, and I am told cannot appear until July 1933. In view of this long delay it seems desirable to correct the statement in the 'Bulletin.'

* In this genus, which displaces *Pogonorhynchus* van der Hoeven (*vide* Syst. Av. Æthiop. 1930, pp. 269 & 858), I group, on structural characters and colour-pattern, three species—*dubius*, *rolleti*, and *bidentatus*—usually placed in three different genera.